PT110-IP

Indoor Vandal Resistant 10x IP PTZ Dome

User Manual

CBC GROUP

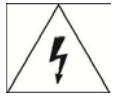
CBC (AMERICA) Corp.

NY: 55 Mall Drive • Commack, NY 11725 (800) 422-6707
CA: 20521 Earl Street • Torrance, CA 90503 (877) 407-9555
www.computarganz.com

CAUTION

RISK OF ELECTRIC
SHOCK DO NOT OPEN

Warning: Do not open the case and disassemble the product. No user serviceable parts included. Please contact authorized service agent.



This lightning flash with arrowhead symbol is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING : TO PREVENT THE RISK OF FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS CAMERA TO RAIN OR MOISTURE.

Important Safeguard

1. **Read Instructions**

   Read all of the safety and operating instructions before using the product.

2. **Retain Instructions**

   Save these instructions for future reference.

3. **Attachments / Accessories**

   Do not use attachments or accessories unless recommended by the appliance manufacturer as they may cause hazards, damage product and void warranty.

4. **Water and Moisture**

   Do not use this product near water or moisture.

5. **Installation**

   Do not place or mount this product in or on an unstable or improperly supported location. Improperly installed product may fall, causing serious injury to a child or adult, and damage to the product. Use only with a mounting device recommended by the manufacturer, or sold with the product. To insure proper mounting, follow the manufacturer's instructions and use only mounting accessories recommended by manufacturer.

6. **Power source**

   This product should be operated only from the type of power source indicated on the marking label.

Precautions

- **Operating**
  - Before using, make sure power supply and others are properly connected.
  - While operating, if any abnormal condition or malfunction is observed, stop using the camera immediately and then contact your local dealer.
- **Handling**
  - Do not disassemble or tamper with parts inside the camera.
  - Do not drop or subject the camera to shock and vibration as this can damage camera.
  - Care must be taken when you clean the clear dome cover. Scratches and dust will ruin the image quality of your camera.
- **Installation and Storage**
  - Do not install the camera in areas of extreme temperatures in excess of the allowable range.
  - Avoid installing in humid or dusty places.
  - Avoid installing in places where radiation is present.
  - Avoid installing in places where there are strong magnetic fields and electric signals.
  - Avoid installing in places where the camera would be subject to strong vibrations.
  - Never expose the camera to rain and water.

Content

① Introduction

Features ____ 7

Product & Accessories ____ 9

Parts Name & Functions ____ 10

② Installation

DIP Switch Setup ____ 13

Direct Installation on the Ceiling ____ 16

Installation using Pendant Mount Bracket ____ 17

Installation using Wall Mount Bracket ____ 18

Installation using Flush Mount Bracket ____ 19

Cabling ____ 20

③ Operation

Check Points before Operation ____ 23

Preset and Pattern Function Pre-Check ____ 23

Starting OSD Menu ____ 24

Reserved Preset ____ 24

Preset ____ 25

Swing ____ 25

Pattern ____ 26

Group ____ 27

Other Functions ____ 28

OSD Display of Main Screen ____ 29

④ How to use OSD Menu

General Rules of Key Operation for Menu 31
Main Menu 31
Display Setup 32
Privacy Zone Mask Setup 33
Camera Setup 34
Motion Setup 36
Preset Setup 38
Swing Setup 39
Pattern Setup 40
Group Setup 41
System Initialize 43

⑤ Remote Video Monitoring

Remote Video Monitoring 45
Initialize IP address 47
IP finder in remote client 48
IP Finder Configuration 49
Use Internet Explorer 50
System 51
Video 52
Audio 54
Network 55
Serial 57
Event 58
Preset 59
User 60

⑥ Specifications

Specifications 63
Dimension 65

Chapter 1.

INTRODUCTION

Features

❑ Camera Specifications

- CCD Sensor : 1/4" Interline Transfer CCD
- Zoom Magnification : × 10 Optical Zoom, × 10 Digital Zoom (Max × 100 Zoom)
- Day & Night Function
- Various Focus Mode : Auto-Focus / Manual Focus / Semi-Auto Focus.
- Independent & Simultaneous Camera Characteristic Setup in Preset operation

❑ Advanced Pan/Tilt Functions

- Max. 360°/sec high speed Pan/Tilt Motion
- Using Vector Drive Technology, Pan/Tilt motions are accomplished with the shortest path. As a result, time to target view is reduced dramatically and the video stream transfers are natural to watch.
- For jog operation using a controller, an ultra slow speed of 0.05°/sec can be reached, making it very easy to relocate camera to the desired target view. Additionally, it is easy to move the camera to a desired position with zoom-proportional pan/tilt movement.

.

❑ Preset, Pattern, Swing, Group, Privacy Mask and More…

- Max. 127 Presets are assignable and characteristics of each preset can be set up independently, such as White Balance, Auto Exposure, Label and so on.
- Max. 8 set of Swing actions can be stored. This enables camera to move automatically between two preset positions at a designated speed.
- Max. 4 Patterns can be recorded and played back. This enables camera to automatically follow any trajectory preset by joystick as closely as possible.
- Max. 8 set of Group action can be stored. This enables camera to move automatically with a combination of Preset or Pattern or Swing. A Group is composed of max. 20 entities of Preset/ Pattern/Swings.
- Privacy Masks are assignable, so as not to intrude on other's privacy. (4 Privacy Zones)

❑ PTZ (Pan/Tilt/Zoom) Control

- With RS-485 communication, max. of 255 cameras can be controlled at the same time.
- Pelco-D or Pelco-P protocol can be selected as a control protocol in the current firmware version.

❑ OSD (On Screen Display) Menu

- OSD menu is provided to display the status of camera and to configure the functions interactively.
- The information such as Camera ID, Pan/Tilt Angle, Alarm Input and Preset can be displayed on screen.

❑ Alarm I/O Functions(Analog Only)

- 4 alarm sensor Inputs are available.
- To completely eliminate external electric noise and shock, alarm sensor Input is decoupled from photo coupler.
- If an external sensor is activated, camera can be set to move to the corresponding Preset position.

❑ Reserved Presets for Special Purpose

- Most camera characteristics can be set up easily and directly with reserved preset, without entering the OSD menu. For more information, refer to "Reserved Preset" in this manual.

❑ Audio

- Various Transmission Mode : Unidirectional Mode (IP-server to Client PC / Client PC or Decoder to IP-server), Bi-directional Mode

❑ Video

- High-Quality Compression Algorithm, H.264
- Compression into Various Resolution : CIF, Half-D1, D1
- Wide Range of Video Transmission Rate : 32kbps ~ 4Mbps
- Various Transmission Mode : CBR, VBR
- Motion Detection

❑ Network

- Static IP and Dynamic IP(DHCP, PPPoE) Support
- One to One Connection and One to Multiple Connection
- Multi-Casting
- Automatic Transmission Rate Control by Network Condition

❑ User Interface

- System Status Display with OSD(On Screen Display)
- System Configuration via Internet Explorer

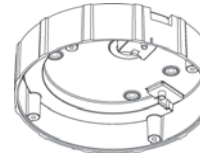
❑ Reliability

- Reliable Embedded System
- System Recovery with Dual Watch-Dog Function

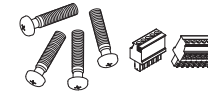
Product & Accessories

❑ Product & Accessories

● Main Body



● Surface Mount Bracket



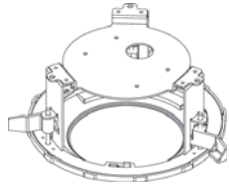
● Screws & Terminal Block

● Lan Cable

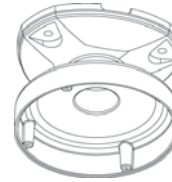
● Wrench

● Audio Cable & Video Cable

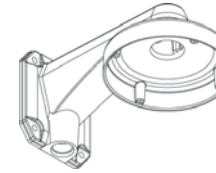
❑ Options



● Flush Mount Bracket

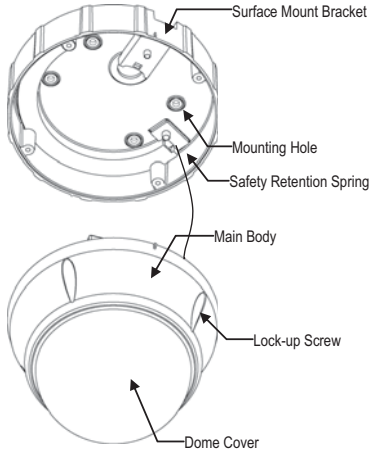


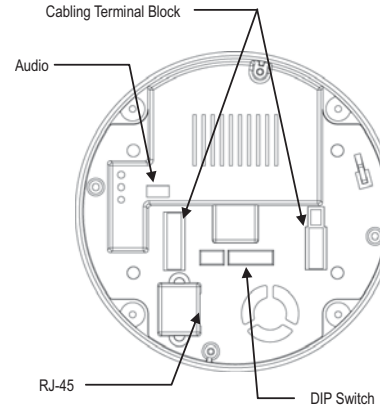
● Pendant Mount Bracket



● Wall Mount Bracket

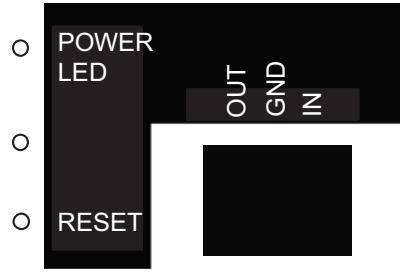
Parts Name & Functions





Main Unit / Surface Mount Bracket **Back of Main Unit**

● Dome Cover	Do not remove protective vinyl from dome cover before finishing all installation processes to protect dome cover from scratches or dust.
● Surface Mount Bracket	Used to install the camera directly on the ceiling. Separate the cover first and then attach it directly to ceiling. Camera must be assembled at the last stage. Do not use this bracket when installing camera on the wall with wall mount bracket or on the ceiling with pendant mount bracket.
● Lockup Screw	Fixes main unit to surface mount bracket.
● Cabling Terminal Block	During installation, Power, Video, Communication, Alarm Input cables are connected on to this cabling terminal block.
● Fall-Proof Spring	Pull out from Surface Mount Bracket and connect to Main Body hook.



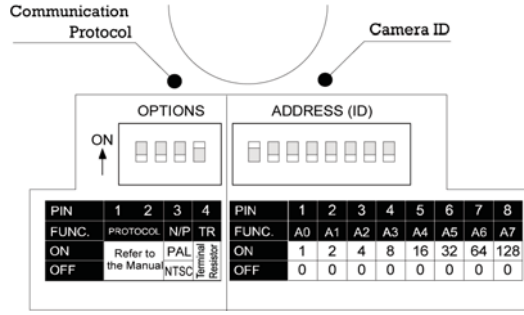
- Reset Button — Reboot the network function when it is NOT working properly.
- Power LED — Illuminates in bright red when the power is supplied to the unit.
- Audio Connection — Connect to a speaker, MIC, and Ground Wire with an appropriate wire.

Chapter 2.

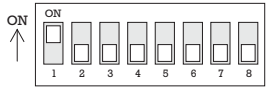
INSTALLATION

DIP Switch Setup

Before you install the camera, you should set the DIP switches to configure the camera ID and communication protocol.


Communication Protocol
Camera ID
OPTIONS
ADDRESS (ID)
ON
PIN 1 2 3 4
FUNC. PROTOCOL N/P TR
ON Refer to the Manual PAL Terminal Resistor
OFF NTSC
PIN 1 2 3 4 5 6 7 8
FUNC. A0 A1 A2 A3 A4 A5 A6 A7
ON 1 2 4 8 16 32 64 128
OFF 0 0 0 0 0 0 0 0

❑ Camera ID Setup



- ID number of camera is set using a binary number. Example is shown bellow.
- The range of ID is 1~255. **Do not use 0 as camera ID**. Factory default of Camera ID is 1.
- If you want to control a certain camera, you must match the camera ID with Cam ID setting of DVR or Controller.

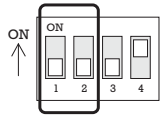
Pin	1	2	3	4	5	6	7	8
ID	1	2	4	8	16	32	64	128
1	on	off	off	off	off	off	off	off
2	off	on	off	off	off	off	off	off
3	on	on	off	off	off	off	off	off
4	off	off	on	off	off	off	off	off
5	on	off	on	off	off	off	off	off
6	off	on	on	off	off	off	off	off
7	on	on	on	off	off	off	off	off
8	off	off	off	on	off	off	off	off
9	on	off	off	on	off	off	off	off
10	off	on	off	on	off	off	off	off

Pin	1	2	3	4	5	6	7	8
ID	1	2	4	8	16	32	64	128
11	on	on	off	on	off	off	off	off
12	off	off	on	on	off	off	off	off
13	on	off	on	on	off	off	off	off
14	off	on	on	on	off	off	off	off
15	on	on	on	on	off	off	off	Off
16	off	off	off	off	on	off	off	off
17	on	off	off	off	on	off	off	off
18	off	on	off	off	on	off	off	off
19	on	on	off	Off	on	off	off	off
20	off	off	on	off	on	off	off	off

Pin	1	2	3	4	5	6	7	8
ID	1	2	4	8	16	32	64	128
21	on	off	on	off	on	off	off	off
22	off	on	on	off	on	off	off	off
23	on	on	on	off	on	off	off	off
24	off	off	off	on	on	off	off	off
25	on	off	off	on	on	off	off	off
26	off	on	off	on	on	off	off	off
27	on	on	off	on	on	off	off	off
28	off	off	on	on	on	off	off	off
29	on	off	on	on	on	off	off	off
30	off	on	on	on	on	off	off	off

Pin	1	2	3	4	5	6	7	8
ID	1	2	4	8	16	32	64	128
31	on	on	on	on	on	off	off	off
32	off	off	off	off	off	on	off	off
33	on	off	off	off	off	on	off	off
34	off	on	off	off	off	on	off	off
35	on	on	off	off	off	on	off	Off
36	off	off	on	off	Off	on	off	off
37	on	off	on	off	Off	on	off	off
38	off	on	on	off	Off	on	off	off
39	on	on	on	off	Off	on	off	off
40	off	off	off	on	Off	on	off	off

❑ Communication Protocol Setup

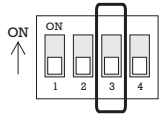


- Select the appropriate Protocol with DIP switch combination.

Switch State		Protocol
P0 (Pin 1)	P1 (Pin 2)	
OFF	OFF	PELCO-D, 2400 bps
ON	OFF	PELCO-D, 9600 bps
OFF	ON	PELCO-P, 4800 bps
ON	ON	PELCO-P, 9600 bps

- If you want to control using DVR or P/T controller, their protocol must be identical to camera. Otherwise, you can not control the camera.
- If you changed camera protocol by changing DIP S/W, the change will be effective after you reboot the camera.
- Factory default of protocol is "Pelco-D, 2400 bps".

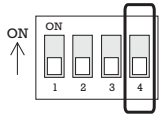
❑ Reserved for Supplier



- Pin 3 is only for supplier, DO NOT CHANGE THESE ITS ORIGINAL STATE. If you change one of these, proper operation cannot be achieved.

⊙ Pin 3 PAL / NTSC system selection of Camera. DO NOT CHANGE THIS PIN.

❑ Terminal Resistor Setup



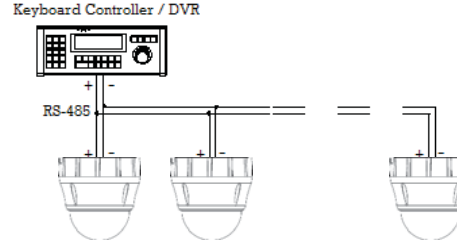
Terminal resistor is used if your system meets one of following two conditional cases.

- **Case1: Control cable between camera and controller is relatively long (1:1 connection)**

  If communication cable is very long, the electrical signal will bind in the terminal point. This reflected signal causes signal distortion, resulting in a degradation of camera function. In this case, the terminal resistor of both sides (i.e. camera and controller) must be set to the 'ON' state.

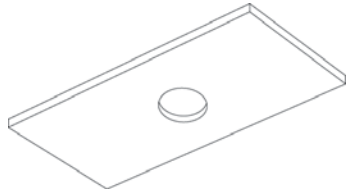
- **Case2: Multiple cameras are controlled at the same time**

  Due to similar reasons stated in case 1, the terminal resisters of the controller and the last camera must be set to 'ON' state. The camera with the longest cable length is determined to be the 'last' camera. Do not turn on the terminal resistor of all cameras.



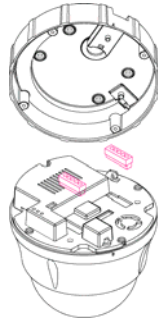
Direct Installation on the Ceiling

① To pass cables to upside of ceiling, please make a 2~2.5 inch (50~60mm) hole on the ceiling panel.



② Fasten surface mount bracket to ceiling with 4 screws.

③ Wire cables to terminal block and connect the terminal blocks to main unit.

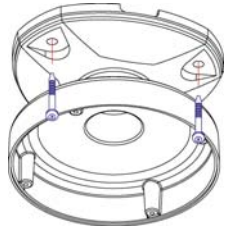


④ Fasten main unit to surface mount bracket with 4 lock-up screws.

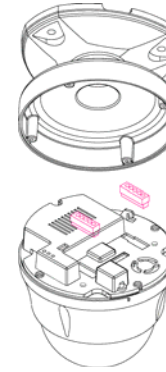
⑤ Remove protective vinyl from dome cover .

Installation using Pendant Mount Bracket

① Fasten pendant mount bracket to ceiling with 3 screws.



② Wire cables to terminals and connect the terminals to main unit. **Do not use surface mount bracket!**

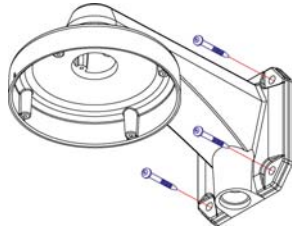


③ Fasten main unit to pendant mount bracket with 4 screws.

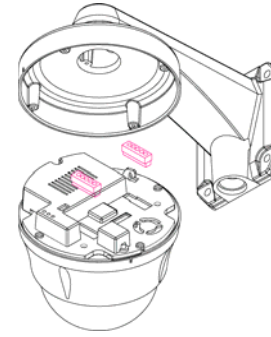
④ Remove protective vinyl from dome cover.

Installation using Wall Mount Bracket

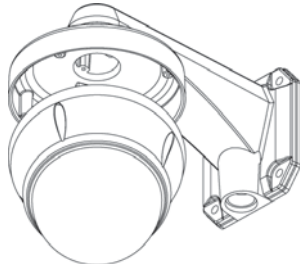
① Fasten wall mount bracket to ceiling with 3 screws.



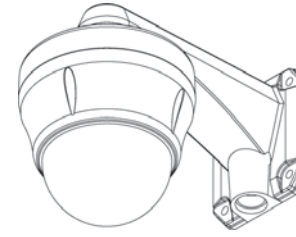
② Wire cables to terminals and connect the terminals to main unit. **Do not use surface mount bracket!**



③ Fasten main unit to wall mount bracket with 4 screws.

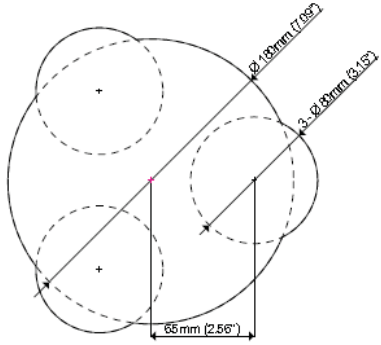


④ Remove protective vinyl from dome cover.

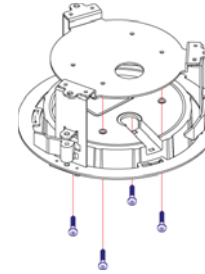


Installation using Flush Mount Bracket

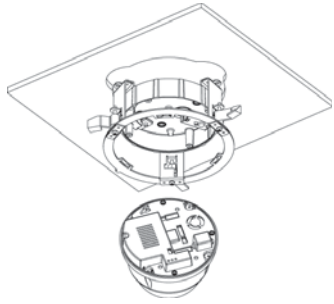
① Cut 3 holes in ceiling



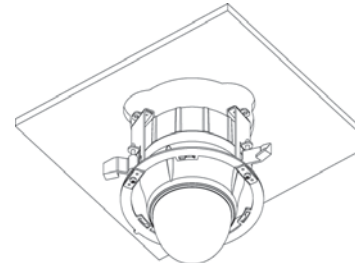
② Align main body bracket with flush mount bracket. Fasten with screws.



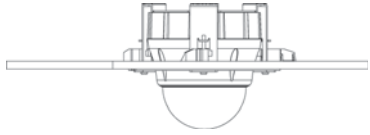
③ Connect fall-proof spring to main body hook. Assemble and fasten with screws.



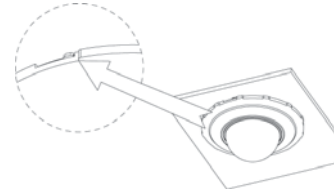
④ Put main body and bracket assembly into main hole.



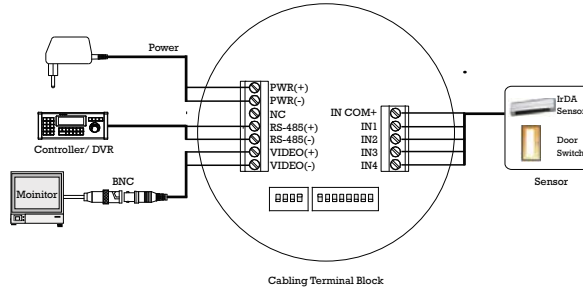
⑤ Secure flush mount bracket to the ceiling with screws through the 3 holes on the bracket.

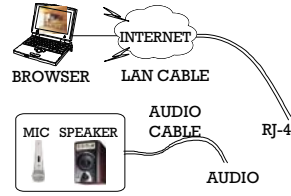


⑥ Cover assembly with bracket cover and turn it clockwise.



Cabling





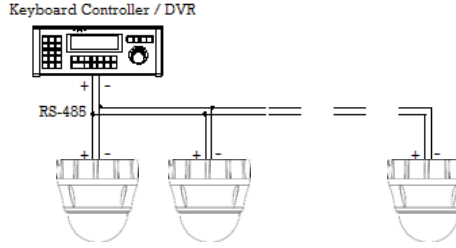
❑ Power Connection

- Please check the voltage and current capacity of rated power carefully. Rated power is indicated on the back of main unit.

Rated Power	Input Voltage Range	Current Consumption
DC 12V	DC 11V ~ 18V	1.3 A

❑ RS-485 Communication

- For PTZ control, connect this line to keyboard and DVR. To control multiple cameras at the same time, RS-485 communication lines to cameras are connected in parallel as shown below.

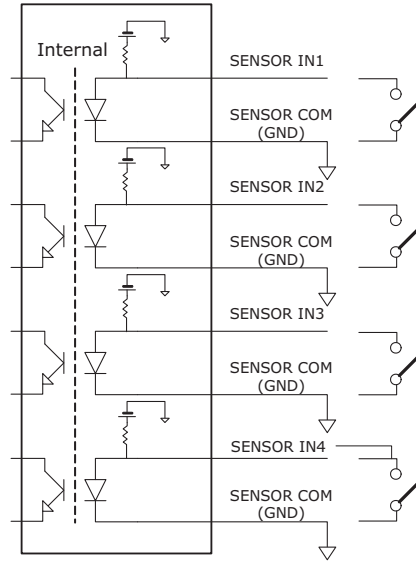


❑ Video Connection

- Connect with BNC coaxial cable.

❑ Alarm Input Connection

- Sensor Input



Before connecting sensors, check the sensor driver voltage and output signal type. Since sensor output signal types are divided into Open Collector and Voltage Output types in general, the cabling must be installed properly depending on the signal type.

Signal	Description
COM (GND)	Connect SENSOR COMs to this port(GND) as shown in the circuit above
IN1, IN2, IN3, IN4	Connect output of sensors for each port as shown in the circuit above.

If you want to use Alarm Input, the type of sensor must be selected in OSD menu. The sensor types are Normal Open and Normal Close. If the sensor type is not selected properly, alarm activation will occur opposite of what is desired.

⊙ Normal Open	Output Voltage is high state when sensor is activated
⊙ Normal Close	Output Voltage is high state when sensor is not activated

Chapter 3.

OPERATION

Check Points before Operation

- Before power is applied, please check the cables carefully.
- The camera ID of the controller must be identical to that of the target camera. The camera ID can be checked by reading DIP switch of the camera.
- If your controller supports multi-protocols, the protocol must be changed to match to that of the camera.
- If you changed camera protocol by changing DIP switch, the change will be effective after you reboot the camera.
- Since the operation method can be different for each controller available, refer to the manual for your controller if camera can not be controlled properly. The operation of this manual is based on the standard Pelco® Controller.

Preset and Pattern Function Pre-Check

- Check controller or DVR preset and pattern function operation in advance to take advantage of full camera functions when using controller or DVR.
- Refer to the following table when using standard Pelco® protocol controller.

< Go Preset >	Input [Preset Number] and press [Preset] button.
< Set Preset >	Input [Preset Number] and press [Preset] button for more than 2 seconds.
< Run Pattern >	Input [Pattern Number] and press [Pattern] button.
< Set Pattern >	Input [Pattern Number] and press [Pattern] button for more than 2 seconds.

- If controller or DVR has no pattern button or function, use shortcut keys with preset numbers. For more information, refer to "Reserved Preset" in this manual.

Starting OSD Menu

- Function: Using the OSD menu, Preset, Pattern, Swing, Group and Alarm Input function can be configured for each application
- Enter Menu: <Go Preset> [95]

Reserved Preset

- Description: Some Preset numbers are reserved to special functions.
- Function:

Go Preset [95]	: Enters into OSD menu
Go Preset [131~134]	: Runs Pattern Function 1 ~ 4
Go Preset [141~148]	: Runs Swing Function 1 ~ 8
Go Preset [151~158]	: Runs Group Function 1 ~ 8
Go Preset [170]	: Sets Camera BLC Mode to OFF
Go Preset [171]	: Sets Camera BLC Mode to ON
Go Preset [174]	: Sets Camera Focus Mode to AUTO
Go Preset [175]	: Sets Camera Focus Mode to Manual
Go Preset [176]	: Sets Camera Focus Mode to SEMI-AUTO
Go Preset [177]	: Sets Day & Night Mode to AUTO
Go Preset [178]	: Sets Day & Night Mode to NIGHT
Go Preset [179]	: Sets Day & Night Mode to DAY
Go Preset [190]	: Sets OSD Display Mode to AUTO (Except Privacy Mask)
Go Preset [191]	: Sets OSD Display Mode to OFF (Except Privacy Mask)
Go Preset [192]	: Setting OSD Display Mode to ON (Except Privacy Mask)
Go Preset [193]	: Sets all Privacy Mask Display to OFF
Go Preset [194]	: Sets all Privacy Mask Display to ON

Preset

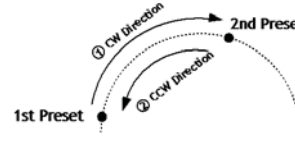
- Function: Max. 127 positions can be stored as Preset position. The Preset number can be assigned from 1 to 128, but 95 is reserved for starting OSD menu.

  Camera characteristics (i.e. White Balance, Auto Exposure) can be set up independently for each preset. Label should be blank and "Camera Adjust" should be set to "GLOBAL" as default. All characteristics can be set up in OSD menu.

- Set Preset: <Set Preset> [1~128]
- Run Preset: <Go Preset> [1~128]
- Delete Preset: To delete Preset, use OSD menu.

Swing

- Function: By using Swing function, you can make camera to move between 2 Preset positions repeatedly. When swing function runs, camera moves from the preset assigned as the 1st point to the preset assigned as the 2nd point in CW(Clockwise) direction. Then camera moves from the preset assigned as the 2nd point to the preset assigned as the 1st point in CCW(Counterclockwise) direction.



  If the preset assigned as the 1st point is the same as the preset assigned as the 2nd point, the camera will turn 360° in a CW (Clockwise) direction, then 360° in a CCW (Counterclockwise) direction.

  Speed can be set up from 1°/sec to 180°/sec.

- Set Swing: To set Swing, use OSD menu.
- Run Swing: Method 1) <Run Pattern> [Swing NO.+10] ex) Run Swing 3 : <Run Pattern> [13]

  Method 2) <Go Preset> [Swing NO.+140] ex) Run Swing 3 : <Go Preset> [143]

- Delete Swing: To delete Swing, use OSD menu.

Pattern

● Function

Pattern Function allows the camera to memorize a path (often a curved path) created by controller joystick for an assigned time. The camera will then retrace the path exactly as memorized.

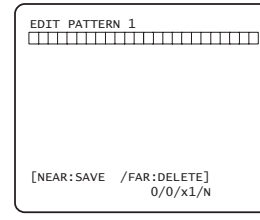
4 Patterns are available and Maximum 1200 communication commands can be stored in a pattern.

● Set Pattern

Patterns can be created by one of following two methods.

Method 1) <Set Pattern> [Pattern NO.]

○ Pattern editing screen is displayed as bellow.



○ Movement by Joystick and preset movement can be memorized in a pattern.

○ The remaining memory size is displayed in progress bar.

○ To save the recording, press **NEAR** key and to cancel, press **FAR** key.

Method 2) OSD Using OSD Menu: See the section "How to use OSD Menu".

● Run Pattern

Method 1) <Run Pattern> [Pattern NO.] ex) Run Pattern 2 : <Run Pattern> [2]

Method 2) <Go Preset> [Pattern NO.+130] ex) Run Pattern 2: <Go Preset> [132]

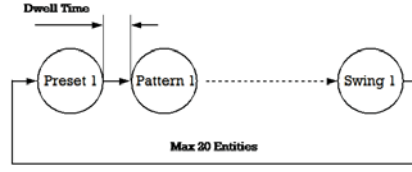
● Delete Pattern

Use OSD menu to delete a Pattern.

Group

- Function

The group function allows a running sequence of Presets, Pattern and/or Swings. Max 8 groups can be stored. Each group can have max 20 action entities which can be preset, pattern or swing. Preset speed can be set up and the repeat number of Pattern & Swing can be set up in Group setup. Dwell time between actions can also be set up.



- Set Group

Use OSD Menu to create a Group.

- Run Group

Method 1) <Run Pattern> [Group NO.+20] ex) Run Group 7 : <Run Pattern> [27]

Method 2) <Go Preset> [Group NO.++150] ex) Run Group 7 : <Go Preset> [157]

- Delete Group

Use OSD Menu to delete.

Other Functions

- **Power Up Action**
  This function enables the camera to resume the last action executed before power down. Most actions such as Preset, Pattern, Swing and Group are available for this function, but Jog actions cannot be resumed.

- **Auto Flip**
  If the tilt angle arrives at the top of tilt orbit (90°), zoom module camera will keep moving in the opposite tilt direction (180°) to keep tracing targets. As soon as zoom module camera passes through the top of tilt direction (90°), images will be reversed automatically and the F symbol appears on screen. If this function is set to OFF, tilt movement range is 0 ~ 95°.

- **Parking Action**
  This function sets the camera to a specific position automatically if operator doesn't operate the controller for a while. The Park Time can be defined as an interval 1/2/3/4/5/6/7/8/9/10/15/30 seconds and 1/2/3/4 minutes.

- **Alarm Input**
  4 Alarm Inputs are used. If an external sensor is activated, camera can be set to move to corresponding preset position. Note: the latest alarm input is in effect if multiple sensors are activated.

- **Privacy Zone Mask**
  To protect privacy, MAX. 4 Privacy Masks can be created in arbitrary locations to hide objects such as windows, shops or private houses. With the Spherical Coordinates system, a powerful Privacy Zone Mask function is available.

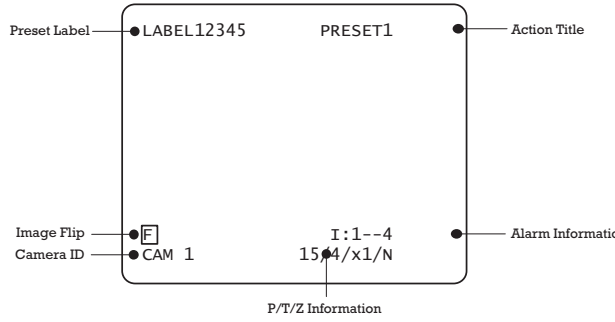
- **GLOBAL/LOCAL Image Setup**
  WB (White Balance) and AE (Auto Exposure) can be set up independently for each preset. There are 2 modes, "Global" mode & "Local" mode. The Global mode means that WB or AE can be set up simultaneously for all presets in the "ZOOM CAMERA SETUP" menu. The Local mode means that WB or AE can be set up independently or separately for each preset in each preset setup menu. Each Local WB/AE value will activate correspondingly as the camera arrives at each preset location.

  During jog operation, Global WB/AE values should be applied. All Local WB/AE values will not change although Global WB/AE value changes.

- **SemiAuto Focus**
  Automatically selects focus mode from Manual Focus or Auto Focus depending on type of operation. Manual Focus mode activates in preset operation and Auto Focus mode activates during jog operation. In Manual mode, Focus data for each preset is memorized in advance, and the camera calls focus data for corresponding presets as soon as it arrives at a preset. This method shortens focus times.

  Focus mode changes to Auto Focus mode automatically when jog operation starts.

OSD Display of Main Screen

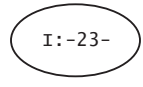


- P/T/Z Information — Current Pan/Tilt angle in degree, zoom magnification and a compass direction.
- Camera ID — Current Camera ID(Address).
- Action Title — Followings are possible Action Titles and their meaning.

"SET PRESET ×××"	When Preset ××× is stored
"PRESET ×××"	When camera reach to Preset ×××
"PATTERN ×"	When Pattern × is in action
"SWG×/PRESET ×××"	When Swing × is in action
"UNDEFINED"	When undefined function is called to run

- Preset Label — The Label stored for specific Preset.
- Alarm Input — This information shows current state of Alarm Input. If an Input point is **ON** it will show a number corresponding to each point. If an Input point is **OFF**, '**–**' will be displayed.

  Example - if points 2 & 3 of inputs are **ON,** the OSD will show as below:

- Image Flip — Indicates that images are currently reversed by Auto Flip Function.

Chapter 4.

HOW to USE OSD MENU

General Rules of Key Operation for Menu

- The menu items surrounded with ( ) always have a sub menu.
- At all menu levels, to go into sub menu, press **NEAR** key.
- To go to up one menu level, press **FAR** key.
- To move from items to item in the menu, use joystick in the **Up/Down** or **Left/Right**.
- To change a value of an item, use **Up/Down** of the joystick in the controller.
- Press **NEAR** key to save values and Press **FAR** key to cancel values.

Main Menu

```
SPEED DOME CAMERA
------------------------
→<SYSTEM INFORMATION>
 <DISPLAY SETUP>
 <DOME CAMERA SETUP>

 <SYSTEM INITIALIZE>



 EXIT
```

- System Information — Displays system information and configuration.
- Display Setup — Enable/Disable of OSD display on Main Screen.
- Dome Camera Setup — Configure various functions of this camera.
- System Initialize — Initializes system configuration and sets all data to factory default configuration.

Display Setup

```
DISPLAY SETUP
-------------------------
→CAMERA ID            ON
 PTZ INFORMATION      AUTO
 ACTION TITLE         AUTO
 PRESET LABEL         AUTO
 ALARM INPUT          AUTO
 <SET NORTH DIRECTION>
 <PRIVACY ZONE>

 BACK
 EXIT
```

This menu defines Enable/Disable of OSD display on Main Screen. If an item is set to be AUTO, the item is displayed only when the value of it is changed.

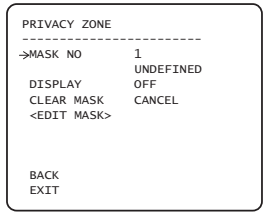
- Camera ID [ON/OFF]
- PTZ Information [ON/OFF/AUTO]
- Action Title [ON/OFF/AUTO]
- Preset Label [ON/OFF/AUTO]
- Alarm Input [ON/OFF/AUTO]

❑ Compass Direction Setup

```
SET NORTH DIRECTION
------------------------




MOVE TO TARGET POSITION
[NEAR:SAVE  /FAR:CANCEL
```

Set North to assign compass direction as criteria. Move camera and press **NEAR** button to save.

Privacy Zone Mask Setup



Select area in image to mask.

- Mask No [1~4]

  Select Mask number. If the selected mask has already data, camera moves as it was set. Otherwise, "UNDEFINED" will be displayed under "Mask NO".

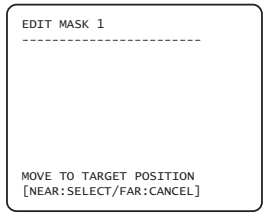
- Display [ON/OFF]

  Sets if camera makes mask shows or not on images.

- Clear Mask [CANCEL/OK]

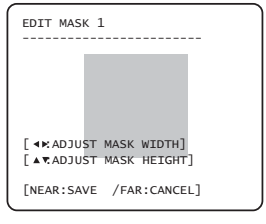
  Deletes data in the selected mask NO.

❑ Privacy Zone Area Setup



Move camera to area to mask. Then the menu to adjust mask size will be displayed.

❑ Privacy Zone Size Adjustment



Adjust mask size. Use joystick or arrow buttons to adjust mask size.

- ◄ ► (Left/Right)
- ▲ ▼ (Up/Down)
- ◄ ► (Left/Right)
- ▲ ▼ (Up/Down)

Camera Setup

```
ZOOM CAMERA SETUP
------------------------
→FOCUS MODE     SEMIAUTO
 DIGITAL ZOOM   ON
 LINE LOCK      OFF
 IMAGE FLIP     OFF
 <WHITE BALANCE SETUP>
 <AUTO EXPOSURE SETUP>

 BACK
 EXIT
```

Setup the general functions of zoom camera module.

● Focus Mode [AUTO/MANUAL/SEMIAUTO]

Sets camera focus mode.

○ SEMIAUTO Mode

Automatically selects focus mode from Manual Focus or Auto Focus depending on type of operation. Manual Focus mode activates in preset operation and Auto Focus mode activates during jog operation. In Manual mode, Focus data for each preset is memorized in advance, and the camera calls focus data for corresponding presets as soon as it arrives at a preset.

● Digital Zoom [ON/OFF]

Sets digital zoom function to ON/OFF. When set to OFF, optical zoom function runs but zoom function stops at the end of optical zoom magnification.

● Line Lock [ON/OFF]

If Line lock sync is ON, video signal is synchronized with AC power. Video can be fluctuated after setting is changed.

●Image Flip [ON/OFF]

Turn watching direction to the other side of moving when camera gets vertical sight.

❑ White Balance set up

```
WB SETUP - GLOBAL
------------------------
→WB MODE          AUTO
  ●RED  ADJUST    ---
  ●BLUE ADJUST    ---




 BACK
 EXIT
```

● WB Mode [AUTO/MANUAL]

In Manual mode, Red and Blue level can be set up manually

● Red Adjust [10~60]

● Blue Adjust [10~60]

❑ Auto Exposure Setup

```
AE SETUP - GLOBAL
------------------------
→BACKLIGHT        OFF
 DAY/NIGHT        AUTO1
 BRIGHTNESS       25
 IRIS             AUTO
 SHUTTER          ESC
 AGC              NORMAL
 SSNR             MIDDLE
 SENS-UP          <AUTO>
 BACK
 EXIT
```

● Backlight [ON/OFF]

Sets Backlight Compensation

● Day/Night [AUTO1/AUTO2/DAY/NIGHT]

AUTO1 exchanges Day/Night mode faster than AUTO2.

● Brightness [0~100]

Adjusts brightness of images. Iris, Shutter Speed and Gain are adjusted automatically in correspondence with this value.

● IRIS [AUTO/MANUAL(0~100)]

If Iris is set to Auto, Iris should have highest priority in adjusting AE and Shutter Speed should be fixed.

If Iris is set to Manual, Iris should be fixed and Iris has lower priority in adjusting AE, in comparison with others.

● Shutter Speed [ESC/A.Flicker/Manual(×128~1/120000 sec)]

If Iris is set to Manual and Shutter Speed is set to ESC, Shutter Speed should have highest priority. If Shutter Speed is set to A.Flicker, to remove Flicker, Shutter Speed should be set to 1/100 sec. for NTSC and 1/120 for PAL.

● AGC [OFF/NORMAL/HIGH]

Enhances image brightness automatically in case that luminance level of image signal is too low.

● SSNR [OFF/LOW/MIDDLE/HIGH]

Enhances images by filtering noise when gain level of images is too high.

● SENS-UP [AUTO(2~128)/OFF]

Activates Slow Shutter function when luminance of image (signal) is too dark.

It is possible to set up the maximum number of frames stacked on one another by Slow Shutter function.

Motion Setup

```
MOTION SETUP
------------------------
→MOTION LOCK      OFF
 PWR UP ACTION    ON
 AUTO FLIP        ON
 JOG MAX SPEED    120/SEC
 JOG DIRECTION    INVERSE
 FRZ IN PRESET    OFF
 <PARKING ACTION SETUP>
 <ALARM INPUT SETUP>
 BACK
 EXIT
```

Setup the general functions of Pan/Tilt motions.

- Motion Lock [ON/OFF]

  If Motion Lock is set to ON, it is impossible to set up and delete Preset, Swing, Pattern and Group. It is only possible to run these functions. To set up and delete these functions, enter into OSD menu.

- Power Up Action [ON/OFF]

  Refer to "Other Functions" section.

- Auto Flip [ON/OFF]

  Refer to "Other Functions" section.

- Jog Max Speed [1°/sec ~360°/sec]

  Sets maximum jog speed. Jog speed is inversely proportional to zoom magnification. As zoom magnification goes up, pan/tilt speed goes down.

- Jog Direction [INVERSE/NORMAL]

  If you set this to 'Inverse', the view on the screen will move in the same direction as jog tilt. If 'Normal' is selected, the view on the screen will move in the opposite direction.

- Freeze in Preset [ON/OFF]

  At start point of preset movement, camera will freeze the image of start point. Camera keeps displaying the image of start point during preset movement and does not display the images received during preset movement. As soon as camera stops at preset end point, camera will display live images received at the preset end point.

  Availability of this function will vary by model.

❑ Parking Action Setup

```
PARKING ACTION SETUP
------------------------
→PARK ENABLE    OFF
 WAIT TIME      00:10:00
 PARK ACTION    HOME




 BACK
 EXIT
```

If Park Enable is set to ON, camera runs assigned function automatically if there is no PTZ command during assigned "Wait Time".

● Park Enable [ON/OFF]

● Wait Time [1~10/15/30 seconds & 1/2/3/4 minutes]

The time is displayed with "hh:mm:ss" format and can be changed in 1 min units.

● Park Action [HOME/PRESET/PATTERN/SWING/GROUP]

○ HOME

Camera moves to home position if there is no PTZ command during assigned "Wait Time".

❑ Alarm Input Setup

```
ALARM INPUT SETUP
------------------------
→ALARM1 TYPE    N.OPEN
 ALARM2 TYPE    N.OPEN
 ALARM3 TYPE    N.OPEN
 ALARM4 TYPE    N.OPEN
 ALARM1 ACT     NOT USED
 ALARM2 ACT     NOT USED
 ALARM3 ACT     NOT USED
 ALARM4 ACT     NOT USED
 BACK
 EXIT
```

Matches the Alarm sensor input to one of Preset positions. If an external sensor is activated, camera will move to corresponding preset position when this item is predefined.

● Alarm × Type [Normal OPEN/Normal CLOSE]

Sets sensor input type.

● Alarm × Action [NOT USED/PRESET 1~128]

Assign counteraction Preset position to each Alarm input.

Preset Setup

```
PRESET SETUP
------------------------
→PRESET NO.    1

 CLR PRESET    CANCEL
 <EDIT SCENE>
 <EDIT LABEL>  LABEL123
 CAM ADJUST    GLOBAL


 BACK
 EXIT
```

- Preset Number [1~128]

  If a selected preset is already defined, camera moves to pre-defined position and preset characteristics such as Label and Relay Outputs show on monitor. If a selected preset is not defined, "UNDEFINED" shows on monitor.

- Clear Preset [CANCEL/OK]

  Delete current Preset data

- Edit Preset Scene Redefine current Preset scene position (i.e. PTZ).

❑ Edit Preset Scene

```
EDIT SCENE - PRESET 1
------------------------




MOVE TO TARGET POSITION
[NEAR:SAVE  /FAR:CANCEL]
```

① Using Joystick, move camera to desired position.

② By pressing **NEAR** key, save current PTZ data.

③ Press **FAR** key to cancel.

Swing Setup

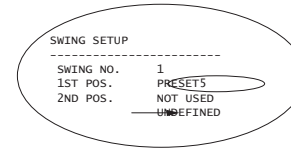
```
SWING SETUP
------------------------
→SWING NO.      1
 1ST POS.       NOT USED
 2ND POS.       NOT USED

 SWING SPEED    30/SEC
 CLEAR SWING    CANCEL


 BACK
 EXIT
```

● Swing Number [1~8]

Select Swing number to edit. If a selected Swing is not defined, "NOT USED" is displayed in 1st Position and 2nd Position

● 1st Position [PRESET 1~128]

2nd Position Set up the 2 position for Swing function. If a selected preset is not defined, "UNDEFINED" will be displayed as shown below.



When swing function runs, the camera will move from the preset assigned as the 1st point to the preset assigned as the 2nd point in a CW (Clockwise) direction. Then the camera will move from the preset assigned as the 2nd point to the preset assigned as the 1st point in a CCW(Counterclockwise) direction. If the preset assigned as the 1st point is same as the preset assigned as the 2nd point, the camera will turn 360° in CW direction and then turn 360° in CCW direction.

● Swing Speed [1°/sec ~180°/sec]

Sets Swing speed from 1°/sec to 180°/sec.

● Clear Swing [CANCEL/OK]

Deletes current Swing data.

Pattern Setup

```
PATTERN SETUP
------------------------
→PATTERN NO.    1
                UNDEFINED
 CLR PATTERN    CANCEL
 <EDIT PATTERN>



 BACK
 EXIT
```

- Pattern Number [1~4]

  Selects Pattern number to edit.

  If a selected pattern number is not defined, "UNDEFINED" will be displayed under selected pattern number.

- Clear Pattern [CANCEL/OK]

  Deletes data in current pattern

- Edit Pattern Starts editing pattern.

❑ Edit Pattern

```
EDIT PATTERN 1
------------------------




MOVE TO START POSITION
[NEAR:START /FAR:CANCEL]
```

① Using Joystick, move to start position with appropriate zoom. To start pattern recording, press **NEAR** key. To exit this menu, press **FAR** key.

```
EDIT PATTERN 1
[■■■■■■■■■■■■■■■■■■■■■■■■]




[NEAR:SAVE  /FAR:DELETE]
              0/0/x1/N
```

② Move camera with controller joystick or run preset function to memorize a path (often a curved path) in a selected pattern. The total memory size and remaining memory size are displayed in the form of a bar. Maximum 1200 communication commands can be stored in a pattern.

③ To save data and exit, press **NEA**R key. To cancel recording and delete record data, press **FAR** key.

Group Setup

```
GROUP SETUP
------------------------
→GROUP NO.      1
                UNDEFINED
 CLEAR GROUP    CANCEL
 <EDIT GROUP>




 BACK
 EXIT
```

- Group Number [1~8]

  Selects Group number to edit.

  If a selected Group number is not defined, "UNDEFINED" will be displayed under selected Group number.

- Clear Group [CANCEL/OK]

  Deletes data in current Group

- Edit Group Starts editing Group.

❑ EDIT GROUP

```
EDIT GROUP 1
------------------------
→NO ACTION ### DWELL OPT
------------------------
  1 NONE
  2 NONE
  3 NONE
  4 NONE
  5 NONE
------------------------
 SAVE
 CANCEL       [NEAR:EDIT]
```

① " Press **Near** key in "NO" list to start Group setup.

```
EDIT GROUP 1
------------------------
 NO ACTION ### DWELL OPT
------------------------
→ 1 NONE
  2 NONE
  3 NONE
  4 NONE
  5 NONE
------------------------
 SAVE     [NEAR:EDIT ACT]
 CANCEL   [FAR :EDIT END]
```

② Note that MAX. 20 Functions are allowed in a Group. Move cursor up/down and press **Near** key to set up.

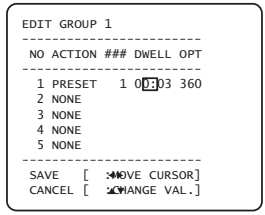
```
EDIT GROUP 1
------------------------
 NO ACTION ### DWELL OPT
------------------------
  1 NONE
  2 NONE
  3 NONE
  4 NONE
  5 NONE
------------------------
 SAVE    [  :MOVE CURSOR]
 CANCEL  [  :CHANGE VAL.]
```

③ Set up Action, Dwell time and Option. Note that selected item is displayed in reverse. Move cursor **Left/Right** to select items and move cursor **Up/Down** to change each value.

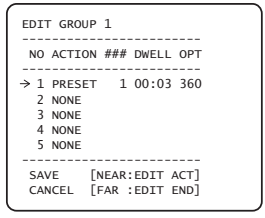
- Action ### [NONE/PRESET/SWING/PATTERN]
- DWELL [0 second ~ 4 minutes]

  Sets Dwell Time between functions

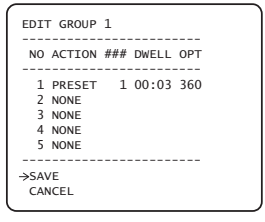
- OPT Option. Displays the preset speed when preset is set in Action. Displays the number of repeats when Pattern or Swing is selected in Action



④ Set up items such as Action, ###, Dwell and OPT.



⑤ After finishing setup of an Action, press **Near** key to one-upper-level menu(Step ②). Move cursor **Up**/**Down** to select Action number and repeat Step ② ~ Step ④ to edit selected Group.



⑥ After finishing setup of all Actions, press **FAR** key to exit. Then cursor should be moved to "SAVE". Press **Near** key to save data.

System Initialize

```
SYSTEM INITIALIZE
-------------------------
→CLEAR ALL DATA      NO
  ●CLR DISPLAY SET   NO
  ●CLR CAMERA SET    NO
  ●CLR MOTION SET    NO
  ●CLR EDIT DATA     NO
  REBOOT CAMERA      NO
  REBOOT SYSTEM      NO

  BACK
  EXIT
```

- ● Clear All Data — Deletes all configuration data such as display, camera, motion setup and so on.
- ● Clear Display Set — Initializes Display Configuration
- ● Clear Camera Set — Initializes Camera Configuration
- ● Clear Motion Set — Initializes Motion Configuration
- ● Clear Edit Data — Deletes Preset Data, Swing Data, Pattern Data and Group Data
- ● Reboot Camera — Reboots Zoom Camera module
- ● Reboot System — Reboots Speed Dome Camera

❑ ❑ Initial Configuration Table

● Display Configuration	
Camera ID	ON
PTZ Information	AUTO
Action Title	AUTO
Preset Label	AUTO
Alarm Input	AUTO
North Direction	Pan 0°
Privacy Zone	Undefined

● Motion Configuration	
Motion Lock	OFF
Power Up Action	ON
Auto Flip	ON
Jog Max Speed	120°/sec
Jog Direction	INVERSE
Freeze In Preset	OFF
Park Action	OFF
Alarm Action	OFF

● Camera Configuration	
Focus Mode	SemiAuto
Digital Zoom	ON
Line Lock	OFF
White Balance	AUTO
Backlight	OFF
Day&Night	AUTO2
Brightness	25
Iris	AUTO
Shutter	ESC
AGC	HIGH
SSNR	MIDDLE
SENS-UP	AUTO

● User Edit Data	
Preset 1~128	Undefined
Swing 1~8	Undefined
Pattern 1~4	Undefined
Group 1~8	Undefined

Chapter 5.

REMOTE VIDEO MONITORING

Remote Video Monitoring

There are two ways to view video between the site and center system. In order for a proper operation, an IP address must be set accordingly.

Default ID : admin	Default Password : 1234

❑ **Video Monitoring using Internet Explorer**

If an encoder's IP address is entered on the Internet Explorer, the system will ask for confirmation to install Active-X control. Once authorized, the Internet Explorer will start to display video images from the encoder as shown below.

http://192.168.10.100

❑ Remote controller in live view

-View Size : Change screen size according to your monitor. Default value is 'x1' and this means original size.

-Moving control : place your mouse in the circle and click. PTZ moves on that way

-Zoom In/Out(Tele/Wide) : zoom in & out current watching.

-HOME : Move to home position. *for more details, see 'Motion Setup->Park Action' setup.

-Focus Near/Far & auto focus button : only works on 'Manual focus' setup. *Not working if it is on 'auto focus' status'.

-IRIS Close/Open & Auto Iris : Close Iris on high light condition and open in low.

-MENU ON : display text menu of IP CAMERA

-Enter : Enter selected menu.(SAVE)

-ESC : cancel current setting and exit to previous page

Set preset position : 1. Place camera on your desired place. 2. Select preset number. 3. Press set.

Move to preset position : 1. Choose preset number, 2. Press 'GOTO' button. *use **'clear'** button to remove preset position

Select the number of tour and type(pattern, Swing, Group) * this should be defined first in each menu(see operation page, pattern, Swing, Group)

Snapshot : snapshot on current live image as still cut.

Talk : voice talk over connected devices. * Camera only can send sound to client. To hear the sound from camera, you should connect microphone on camera and speaker on Remote.

Initialize IP address

If a system IP address is lost, the system can be reset to the system default IP address using the reset button in the back side of the system.

① While system is in operation, press the reset button for more than 5 seconds.

② The system will reboot automatically

③ Once the system reboots, IP address will be set to the system default as below.

• IP mode	**Fixed IP**	**• IP address**	**192.168.10.100**
• Subnet mask	**255.255.255.0**	**• Gateway**	**192.168.10.1**
• Base port	**2222**	**• HTTP port**	**80**

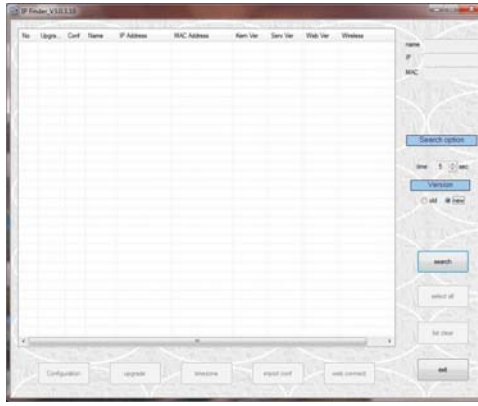
IP finder in remote client

To use IP camera over network, you should set IP address first on your IP camera.

- Prepare Network cable
- Connect to available Network port.
- Find IP address of the network camera with IP installer or IP remote s.w

  * IP installer : Find IP address of registered device, update and web connection

❑ IP finder



IP finder searches all available devices on connected network.

(Available menu is differ to each model)

To find your device, click 'Search' button and then you can do following process.

-Configuration : Change IP address

-Upgrade : upgrade firmware

-Time zone : change time zone

-import setup : import setup configuration files

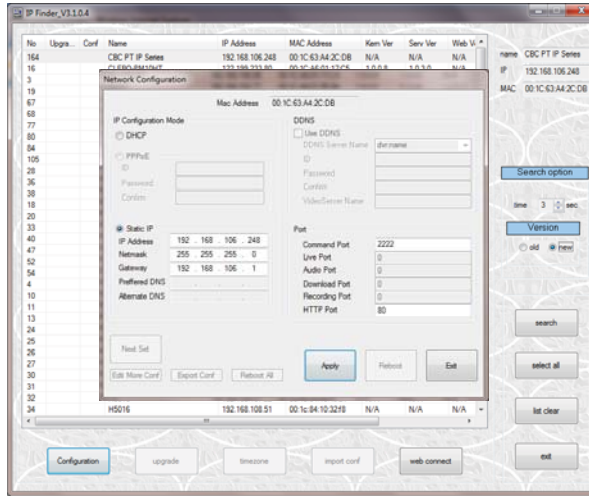
-Web connection : Connect through I.explorer.

After Searching, select a device and change IP address according to your network information and connect through 'Web Connect'.

IP Finder Configuration

❑ Configuration

In Configuration page, user can setup connection type and IP address information.



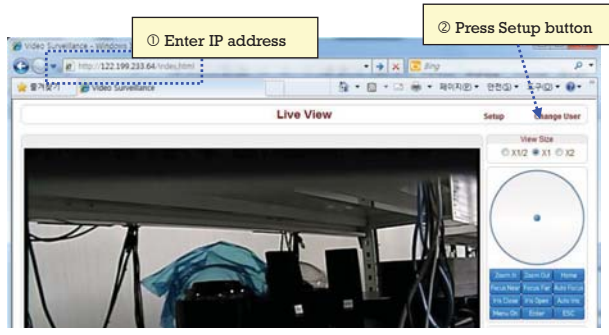
- DHCP : Once you select DHCP, it disables IP address information field. To use this option, you must check your network support DHCP.
- PPPoE : Use this option when you use WAN service. To use WAN service, you need ID & Password from your service provider.
- Static IP : if you know all IP information, select this option.
- Use DDNS : check this option when you use DDNS service.
- Port : shows port numbers which required in communication.

❑ Web connect

Access directly to camera with Internet Explorer and user can do remote setup. See more details on next page.

Use Internet Explorer

The server can be configured using web browser. Type IP address in the address input area of Internet Explorer, then a live viewing screen will be displayed. Press **Setup** button located in the upper right area of the monitoring screen, then the setup page for server setup will be displayed.



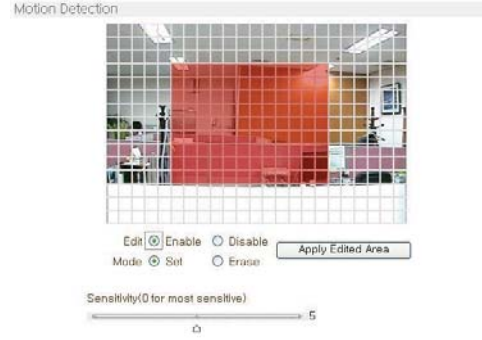
The configurations are grouped into 8 categories: **System**, **Video**, **Audio**, **Network**, **Serial**, **Event, Preset** and **User**. Any configuration changes are not applied until **Apply** is pressed. Leaving the page without pressing **Apply** button, changes in the page will be discarded.

System

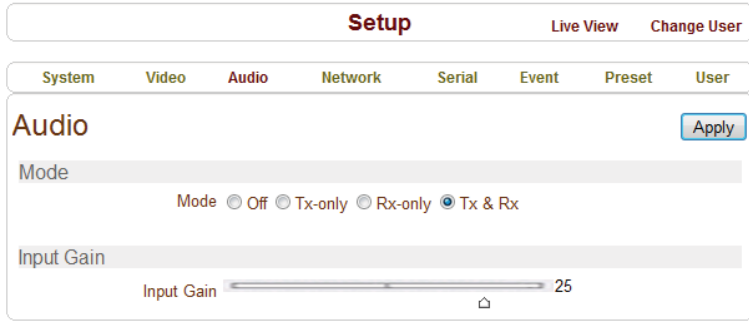
❑ Video Standard	Select NTSC or PAL
❑ System ID	Alphanumeric System ID to be transferred to remote software
❑ Language	Language to be used for web-based configuration(English, Japanese and Korean)
❑ Firmware version	Current firmware version
❑ Start Time	Latest system boot date and time
❑ Current Time	Enter a new date and time and press **Set Current Time** button to update date & time
❑ Time Zone	Select time zone of where the system is installed. Depending on the time zone, Daylight Saving Time will work automatically
❑ Automatically synchronize with NTP server	Synchronize system time with an NTP server using NTP(network time protocol). Name of the NTP server should be registered on NTP server Name.
❑ Reboot Server	Pressing **Reboot Server** button will cause the system to reboot. Do not press the Reboot button unless the server needs a reboot.
❑ Factory Reset	Back to default(factory default)

Video

❑ Preference	Preference in video compression and transmission: With 'Bitrate' selected, the video compression will be effected by the 'Bitrate' value entered. With 'Quality' selected, the video compression will be effected by the quality of image selected. Therefore, 'Bitrate' and 'Quality' corresponds to CBR and VBR respectively
❑ Resolution	Selectable video compression resolution: NTSC: 720×480, 720×240, 352×480, 352×240 PAL: 720×576, 720×288, 352×576, 352×288

❑ Frame rate	Selectable video frame rate: Determine the maximum number of frames of video images to compress. The frame rate of actually transmitted video can be affected by the network bandwidth limitation
❑ Quality	The selection is possible with Preference is set to 'Quality'
❑ Bitrate	The value is applicable when Preference is set to 'Bit rate'
❑ I-Frame Interval	Possible values between 0 and 255. There will be no I-frames if 0 is selected.
❑ Motion Detection Area Editing	Configure regions for motion detection. Regions of arbitrary shape can be configured by the following steps. ① Enable **Edit** item. ② Select editing Mode. **Set** is for including cells to motion detection region and **Erase** is for excluding. ③ Select cells using the left button of the mouse. Multiple cells can be selected conveniently by press and dragging. ④ Press **Apply Edited Area** to save the editing. 
❑ Sensitivity	A condition to trigger an event with motion detection. The value determines the sensitivity of the motion detection within a block: the smaller, the more sensitive
❑ Brightness	Controls input video brightness by selecting values between 0 and 100.
❑ Contrast	Controls input video contrast by selecting values between 0 and 100
❑ Hue	Controls input video Hue by selecting values between 0 and 100
❑ Saturation	Controls input video saturation by selecting values between 0 and 100.
❑ Burn-in OSD	Inserts system ID and date/time in the compressed video. Separately **System ID** and **Time** can be turned On or Off in the video. **Position** specifies the position of such data

Audio

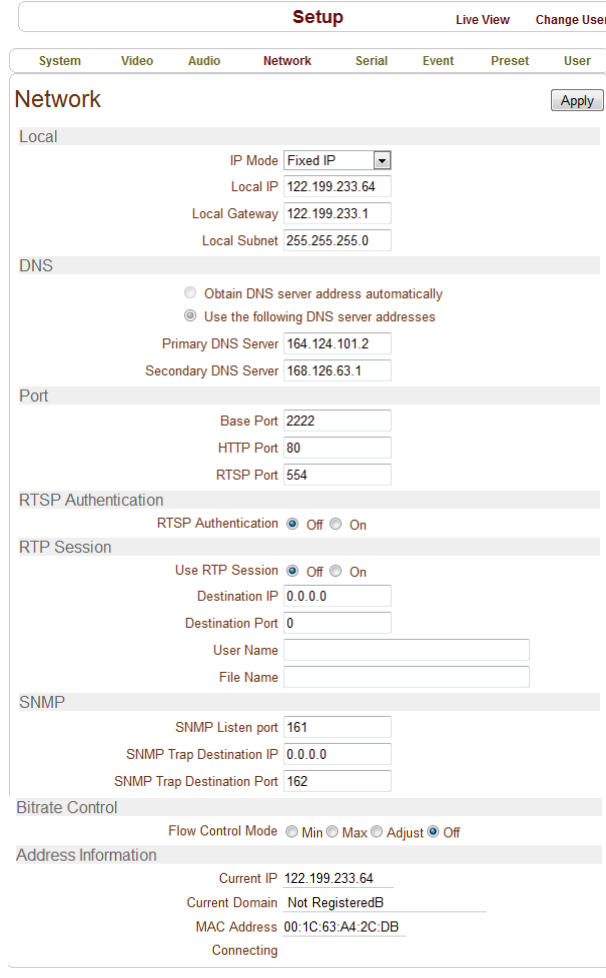


❑ Mode	Select audio operation mode

Mode	Action
Off	No operation
Tx-Only	Transmit only
Rx-Only	Receive only
Tx & Rx	Transmit and Receive

❑ Input Gain	Set audio input gain

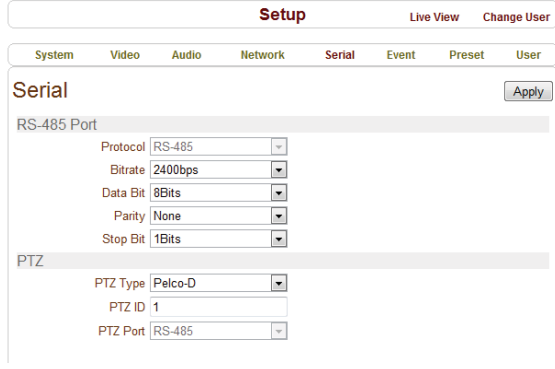
Network


Setup
Live View
Change User
System
Video
Audio
Network
Serial
Event
Preset
User
Network
Apply
Local
IP Mode
Fixed IP
Local IP
122.199.233.64
Local Gateway
122.199.233.1
Local Subnet
255.255.255.0
DNS
Obtain DNS server address automatically
Use the following DNS server addresses
Primary DNS Server
164.124.101.2
Secondary DNS Server
168.126.63.1
Port
Base Port
2222
HTTP Port
80
RTSP Port
554
RTSP Authentication
RTSP Authentication
Off
On
RTP Session
Use RTP Session
Off
On
Destination IP
0.0.0.0
Destination Port
0
User Name
File Name
SNMP
SNMP Listen port
161
SNMP Trap Destination IP
0.0.0.0
SNMP Trap Destination Port
162
Bitrate Control
Flow Control Mode
Min
Max
Adjust
Off
Address Information
Current IP
122.199.233.64
Current Domain
Not RegisteredB
MAC Address
00:1C:63:A4:2C:DB
Connecting

<table>
<tr><td>❑ IP Mode</td><td>Three IP modes are supported. Depending on the selected mode, further configuration items come as follows.
<table>
<tr><th>IP Mode</th><th>Selection</th><th>Description</th></tr>
<tr><td rowspan="3">Fixed IP</td><td>Local IP</td><td>Fixed IP address</td></tr>
<tr><td>Local Gateway</td><td>Gateway IP address</td></tr>
<tr><td>Local Subnet</td><td>Subnet mask</td></tr>
</table>
☞ Please ask an IP address information from ISP provider or network manager</td></tr>
<tr><td>❑ DNS</td><td>Set DNS server IP address.</td></tr>
<tr><td>❑ PORT</td><td>Base Port : communication port for each connection.
HTTP Port : web port(Default is 80)
RTSP Port : default 554</td></tr>
<tr><td>❑ RTSP Auth.</td><td>Use when you need RTSP authentication</td></tr>
<tr><td>❑ RTSP Session</td><td>Communication protocol setup for RTSP use.</td></tr>
<tr><td>❑ SNMP</td><td>Communication protocol to detect network status</td></tr>
<tr><td>❑ Bitrate control</td><td>When several clients connect to a server, bandwidths of networks clients may differ and some clients may not receive encoded stream fully. To handle such situation, three flow control modes which can be chosen according to users' preference are provided
<table>
<tr><th>Mode</th><th>Description</th></tr>
<tr><td>Min</td><td>The bitrate is automatically adjusted to a client with smallest network bandwidth</td></tr>
<tr><td>Max</td><td>The bitrate automatically adjusted to a client with largest network bandwidth size. When set to this mode, a client with smaller bandwidth will not receive all frames of video</td></tr>
<tr><td>Adjust</td><td>The bitrate is adjusted to most optimum rate by learning the network bandwidth</td></tr>
<tr><td>Off</td><td>Flow control is off</td></tr>
</table></td></tr>
<tr><td>❑ Address Info</td><td>Display network related information
<table>
<tr><td>IP Address</td><td>The server own IP address. This information is useful when the server's IP mode is set to DHCP</td></tr>
<tr><td>Current Domain</td><td>In case the server is registered with DDNS server, the registered domain name is displayed</td></tr>
<tr><td>MAC Address</td><td>Display the MAC address of the server. In case the server is registered with DDNS server, the MAC address is used in DDNS registration</td></tr>
</table></td></tr>
</table>

Serial

This page is used only for developer and test purpose. In this page, user can define serial connection of camera and this is only used when user control camera as RS485 telemetry. No available in IP connection control

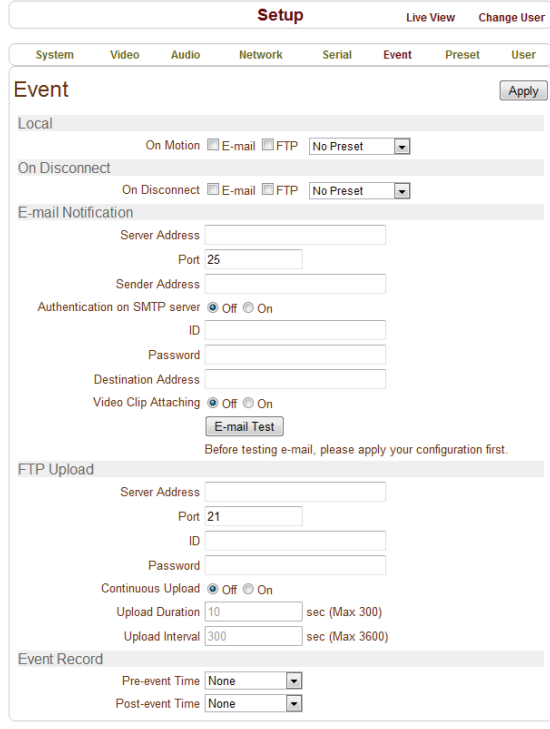


❑ RS485 port	Set connection type with each connection information. To get detail of RS-485 connection, refer to PTZ camera's instructions.
❑ PTZ	Set PTZ type and ID according to configured setup.

*Serial communication information should be synchronized to Analog camera communication setup.

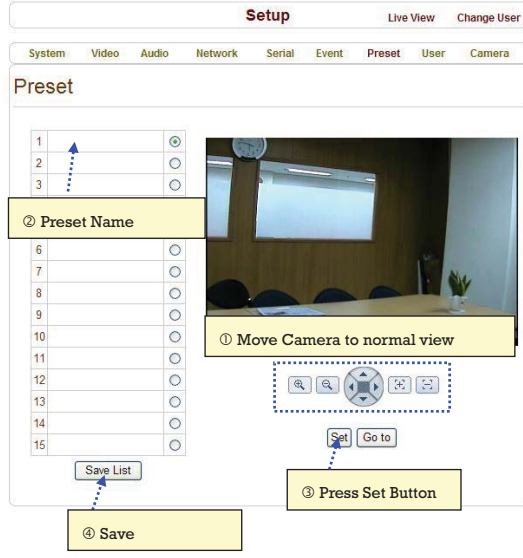
Event

In this page, user can define alarm activity and notification from local to remote.



❑ Local	Define what type of reaction in local followed by each event. There are E-mail, FTP and Move to preset position option.
❑ On Disconnect	Define what type of reaction will be on when system is disconnected.
❑ E-mail Notification	Set mail server information to send out e-mail to specified user. Check if you will include Video Clip or not.
❑ FTP upload	Set FTP server to upload event triggered image data.
❑ Event Record	Set PRE & POST Recording time and POST Event type.

Preset



❑ Preset Configuration

Set the PTZ Presets by following the next steps.

① Move cameras to desired view using PTZ control buttons.

② Enter Preset name.

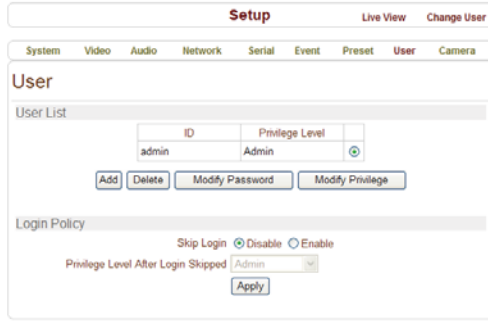
③ Press **Set** button.

④ Once all the presets are set, press **Save List** button.

❑ Move to Preset Position

Select a preset from the Preset and press **Go To** button, then, the camera will move to the selected preset position.

User

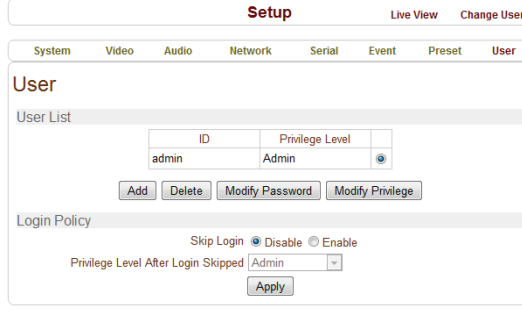


User can be registered and authority level of a user can be specified. User configuration is allowed only to admin user. MAX. 16 users can be registered and each user can have one of four authorities.

Authority Level	Allowed Operations	Remarks
Admin	All operations	User ID = admin
Manager	All operations except for user configuration	
User	Live viewing and PTZ control	
Guest	Live viewing only	

❑ Add User

Page for adding a user comes on pressing **Add** button.



User ID and password need to be entered and privilege level need to be selected. User ID and password consist of alphanumeric string of MAX. 15characters.

❑ **Delete User**

A user is deleted by pressing **Delete** button.

❑ **Change Password**

Pressing **Modify Password** button after selecting a user shows a page for changing password. In case of changing admin password, the old password is checked.

❑ **Modify Privilege Level**

Pressing **Modify Privilege** button after selecting a user shows a page for changing the authority. It is not allowed to change the authority level of admin user.

❑ **Login Policy**

Skip Login is provided for convenient access to the server when authentication is not required. When **Skip Login** is set to Enable, login step is skipped. The privilege level after login in this way is determined by the setting of **Privilege Level After Login Skipped**.

Chapter 6.

SPECIFICATION

Specifications

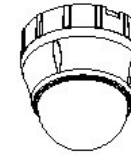
Network	Network Interface	Ethernet 10/100 Base-T(RJ45)	
	Network Protocol	TCP/IP,UDP, Multicast, DHCP, PPPoE, SMTP, HTTP, SNMP	
Video	Standard	H.264	
	Data Rate	32Kbps ~ 4Mbps	
	Resolution	NTSC : 720×480, 720×240, 352×480, 352×240	
		PAL : 720×576, 720×288, 352×576, 352×288	
	Max Frame Rate	NTSC : Max. 30fps	PAL : Max. 25fps
	Frame Rate Range	NTSC : 0.2 ~ 30fps	PAL : 0.2 ~ 25fps
	Motion Detection	Sensitivity adjustable	
Audio	Standard	G.711	
	Sample Rate	8KHz	
	Data Rate	64Kbps	
	Input	1 Line-In (Mini-Stereo)	
	Output	1 Line-Out (Mini-Stereo)	
Video Access from Web-Browser		Camera Live View & Audio/Video snapshot, PTZ control, Remote Setup, Remote Upgrade	
Security		Multiple user access levels with password protection, IP address filtering, HTTPS encryption, IEEE 802.1× authentication	
CMS	Live Monitoring	Max 36 Channel Monitoring simultaneously PTZ Control Event Monitoring Bi-directional Audio communication	
	Search/Playback	Time/Camera-Base/Event-Base Multi-channel viewing of recorded status on timeline	
	Backup	Export to AVI file Snapshot to BMP file	

Model		PT110N
Video Signal System		NTSC
Camera	CCD	1/4" Interline Transfer CCD
	Max. Pixels	811(H)×508(V) 410K
	Effective Pixels	768(H)×494(V) 380K
	Horizontal Res.	500 TV Line(Color), 570 TV Line(B/W)
	S/N Ratio	50 dB (AGC Off)
	Zoom	×10 Optical Zoom, ×10 Digital Zoom
	Focal length	F1.8, f=3.8~38mm
	Min. illumination	0.7 Lux (Color) / 0. 02 Lux (B/W), 50 IRE
	Day & Night	Auto / Day / Night(ICR)
	Focus	Auto / Manual / SemiAuto
	Iris	Auto / Manual
	Shutter Speed	x128 ~ 1/120000 sec
	AGC	Normal / High / Off
	White Balance	Auto / Manual(Red, Blue Gain Adjustable)
	BLC	Low / Middle / High / Off
	Flickerless	Selectable
	SSNR	Low / Middle / High / Off
Pan/Tilt	Range	Pan : 360°(Endless)
		Tilt : 180° (Auto-Flip), 95° (Normal)
	Pan/Tilt Speed	Preset : 360°/sec
		Manual : 0.05 ~ 360°/sec (proportional to zoom)
		Swing : 1~ 180°/sec
	Preset	127 Preset (Label, Camera Image Setting)
	Pattern	4 Pattern, 1200 commands(about 5 minute)/Pattern
	Swing	8 Swing
	Group	8 Group (20 action entities per Group)
	Other Functions	Auto Flip, Auto Parking, Power Up Action etc.
General	Communication	RS-485
	Protocol	Pelco-D, Pelco-P selectable
	Privacy Zone	4 Zone
	Alarm Input	4 Input
	OSD	Menu / PTZ information etc
	Rated Power**	DC Type : DC 12V / 1.3A
	Dimension	Dome : ∅115
		Housing : ∅154.5 × 158.5(H) mm
	Weight	about 1.3 Kg
	Operating Temp.	0°C ~ 40°C

* Specifications of this product are subject to change without notice.

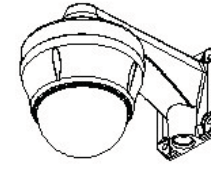
** Check the voltage and current capacity of rated power carefully.

■ Appearance

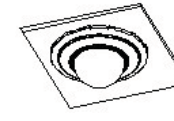


Main Unit

Pendant Mount



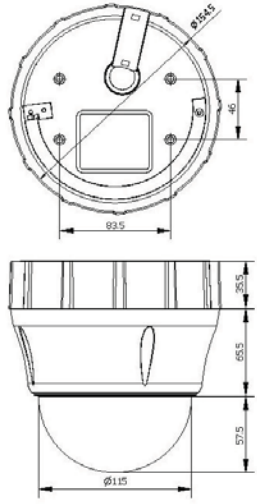
Wall Mount



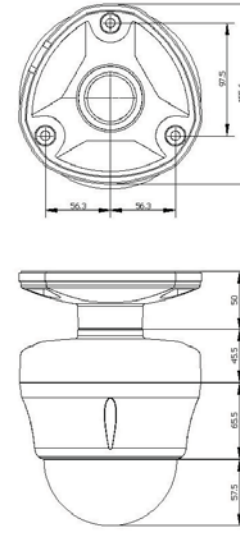
Flush Mount

Dimension

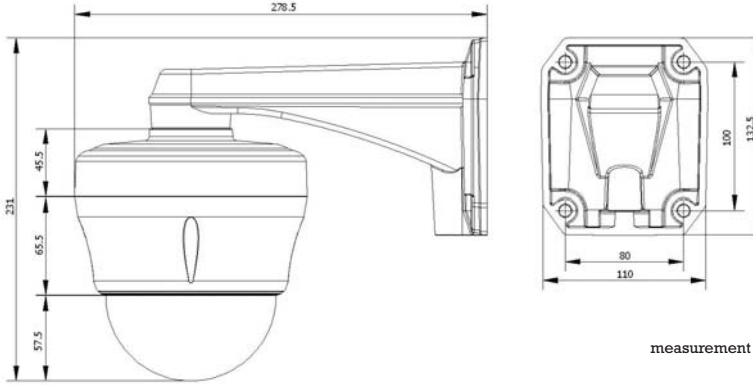
- Main Unit & Surface Mount Bracket



- Pendant Mount Bracket



- Wall Mount Bracket



measurement (mm)